AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of claims:

1. (previously presented) A method of forecasting a pharmacokinetic parameter of a lipid A analog as an aggregate structure in solution or in an injection preparation, wherein said aggregate structure in solution or injection preparation contains a lipid A analog or a pharmacologically acceptable salt thereof, said method comprising

measuring at least one of membrane fluidity and circular dichroism of the solution or the injection preparation;

preparing a plurality of lots of solutions, each solution having a unique, known value of said pharmacokinetic parameter;

measuring the membrane fluidity or circular dichroism of said plurality of lots of solutions;

preparing a graphical correlation for said plurality of lots of solutions, said correlation being between the

membrane fluidity or circular dichroism and said unique, known value of said pharmacokinetic parameter.

2. (canceled).

2 ~~3~~. (previously presented) The method according to claim 1, wherein quality evaluation is conducted in order to obtain an injection preparation exhibiting a constant pharmacokinetic parameter.

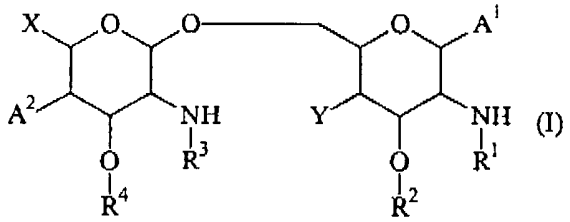
3 ~~4~~. (previously presented) The method according to claim 1, which is conducted during preparation of the injection preparation.

4 ~~5~~. (previously presented) The method according to claim 1, wherein the membrane fluidity is measured by a fluorescence probe method which uses, as parameters, at least one of order parameter (S), fluorescence polarity (P) and fluorescence anisotropy (r).

5 ~~6~~. (previously presented) The method according to claim 1, wherein the injection preparation further contains aggregates having a diameter not greater than 30 nm, and is prepared by dissolving the lipid A analog or a pharmacologically acceptable salt thereof in an alkaline aqueous solution and then adding a buffer thereto.

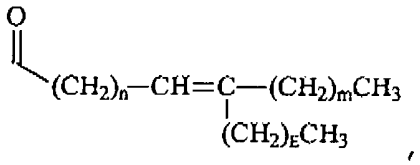
7. (previously presented) The method according to claim 1, wherein the injection preparation is an aqueous injection or freeze-dried preparation.

8. (previously presented) The method according to claim 1, wherein the lipid A analog or a pharmacologically acceptable salt thereof is a compound represented by the following formula (I):



(I)

wherein at least one of R^1, R^2, R^3 and R^4 is



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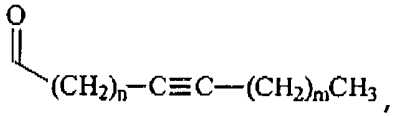

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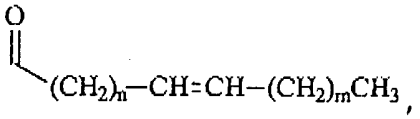

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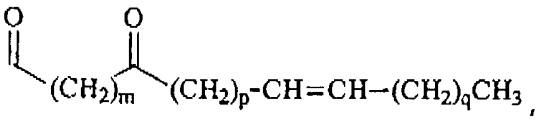

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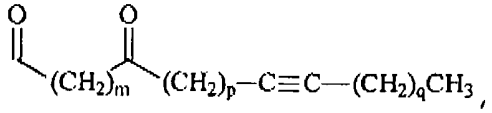

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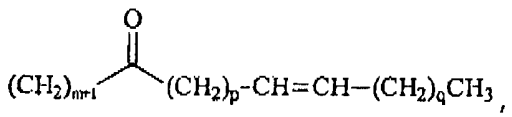

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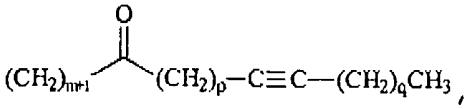

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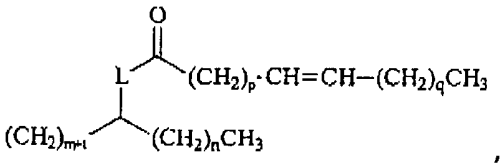

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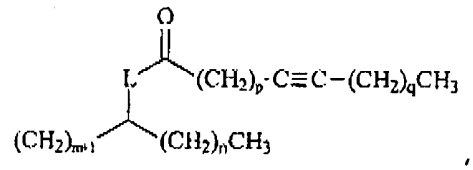
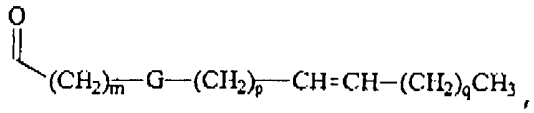
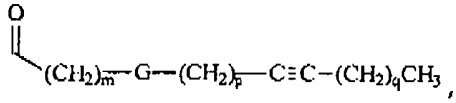
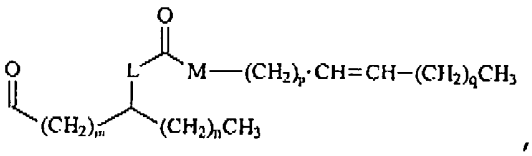
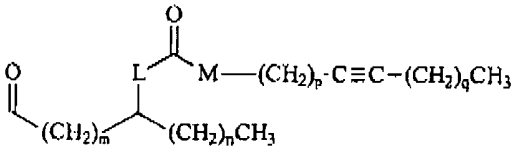
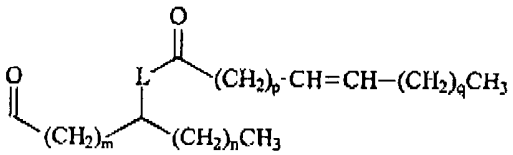


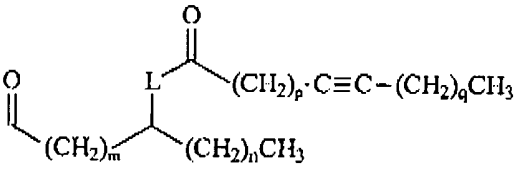


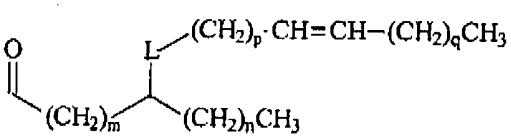


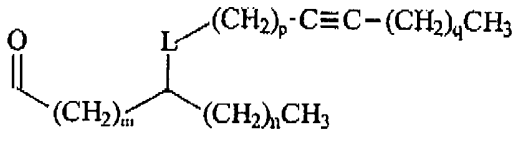






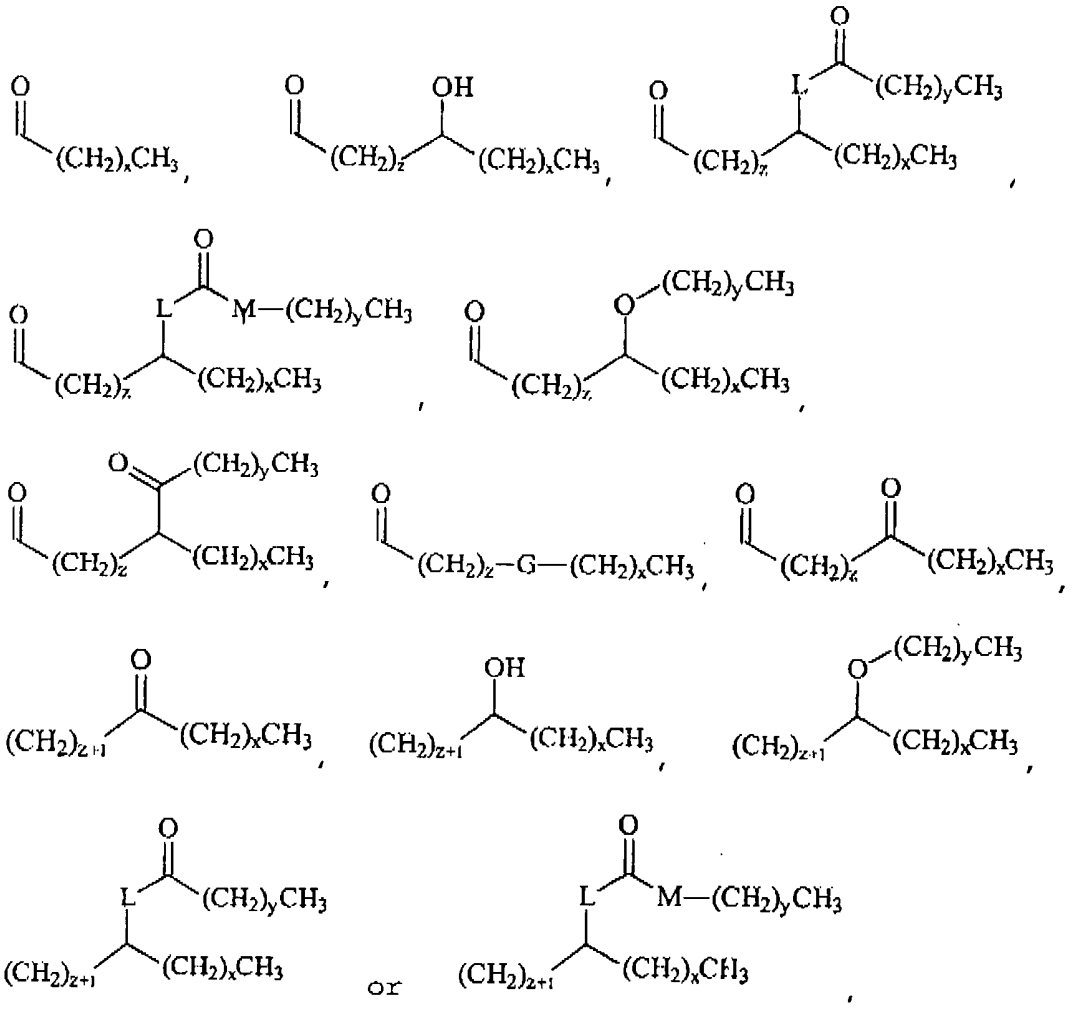




or 

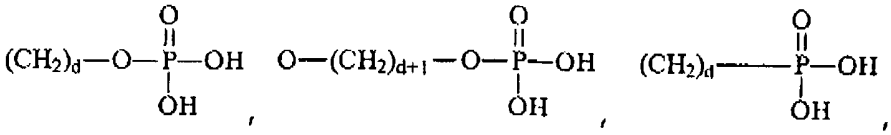
wherein each L is O, N or C; each M is O or N; each E independently is an integer of 0 to 14; each G independently is N, O, S, SO or SO_2; each m independently is an integer of 0 to 14; each n independently is an integer of 0 to 14; each p independently is an integer of 0 to 10; each q independently is an integer of 0 to 10,

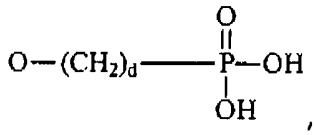
the rest of R^1, R^2, R^3 and R^4 are, independently of one another,

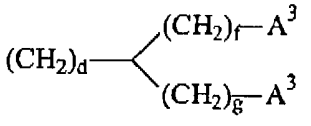


wherein each L is O, N or C; each M is O or N; each x independently is an integer of 0 to 14; each y independently is an integer of 0 to 14; each z independently is an integer of 0 to 10; each G independently is N, O, S, SO or SO_2,

A^1 and A^2 are, independently of one another, H, OH, OCH_3,



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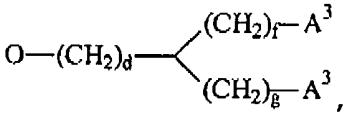
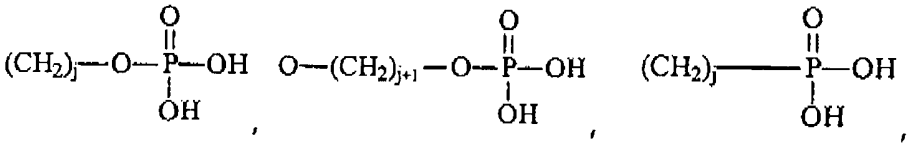
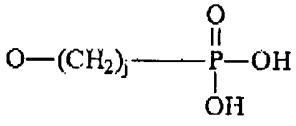


wherein each d independently is an integer of 0 to 5; each f independently is an integer of 0 to 5; each g independently is an integer of 0 to 5; each A^3 independently is

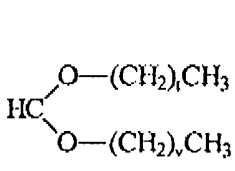




or

wherein each j independently is an integer of 0 to 14,

X is H, $(CH_2)_tCH_3$, $(CH_2)_tOH$, $(CH_2)_tO(CH_2)_vCH_3$, $(CH_2)_tOPO(OH)_2$, $(CH_2)_t$-CH=CH-$(CH_2)_vCH_3$, $(CH_2)_t$-O-R^5,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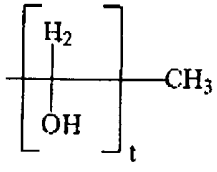
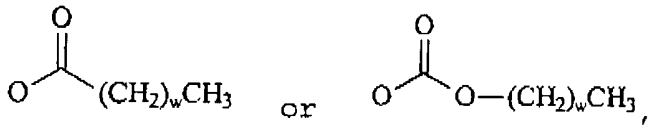


wherein t and v, are independently of one another, an integer of 0 to 14; R^5 is any of the above definitions of R^1 to R^4,

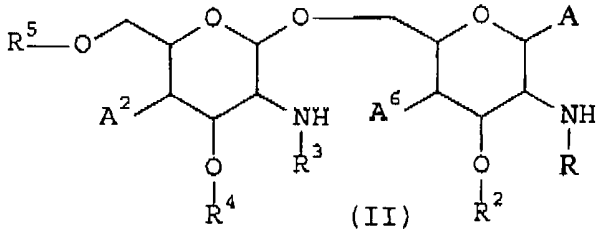
Y is H, OH, $O(CH_2)_wCH_3$, a halogen atom,



wherein w is an integer of 0 to 14,

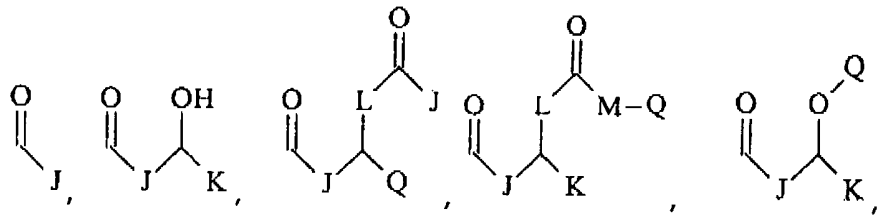
or a pharmacologically acceptable salt thereof.

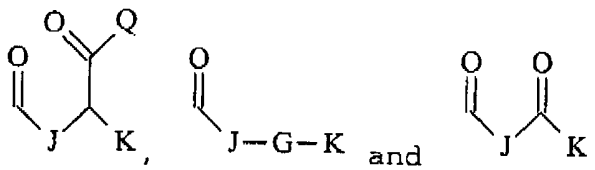
8 9. (previously presented) The method according to claim 1, wherein the lipid A analog is a compound represented by the following formula (II):



(II)

wherein R^1 is a group selected from the groups consisting of



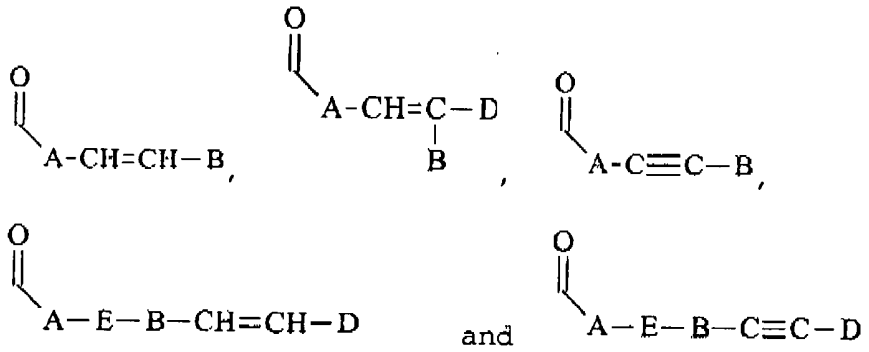


and

wherein J, K and Q are each a linear or branched alkyl group of 1 to 15 carbon atoms; L is O, NH_2 or CH_2; M is O or NH; G is NH, O, S, SO or SO_2,

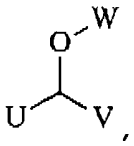
R^2 is a linear or branched alkyl group of 5 to 15 carbon atoms,

R^3 is a group selected from the groups consisting of



wherein E is N, O, S, SO or SO_2; A, B and D are each a linear or branched alkyl group of 1 to 15 carbon atoms,

R^4 is a group selected from the groups consisting of a linear or branched alkyl group of 4 to 20 carbon atoms and



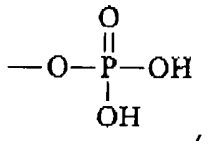
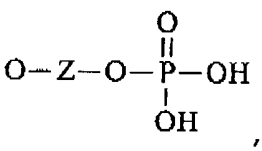
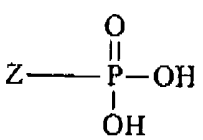
wherein U and V are each a linear or branched alkyl group of 2 to 15 carbon atoms; W is a hydrogen atom or a linear or branched alkyl group of 1 to 5 carbon atoms,

R^5 is a group selected from the groups consisting of a hydrogen atom, J', -J'-OH, -J'-O-K', -J'-O-K'-OH and

-J'-O-PO(OH)$_2$, wherein J' and K' are each a linear or branched alkyl group of 1 to 5 carbon atoms,

R^6 is a group selected from the groups consisting of a hydroxyl group, a halogen atom, an alkoxy group of 1 to 5 carbon atoms, and an acyloxy group of 1 to 5 carbon atoms,

A^1 and A^2 independently are each a group selected from the groups consisting of

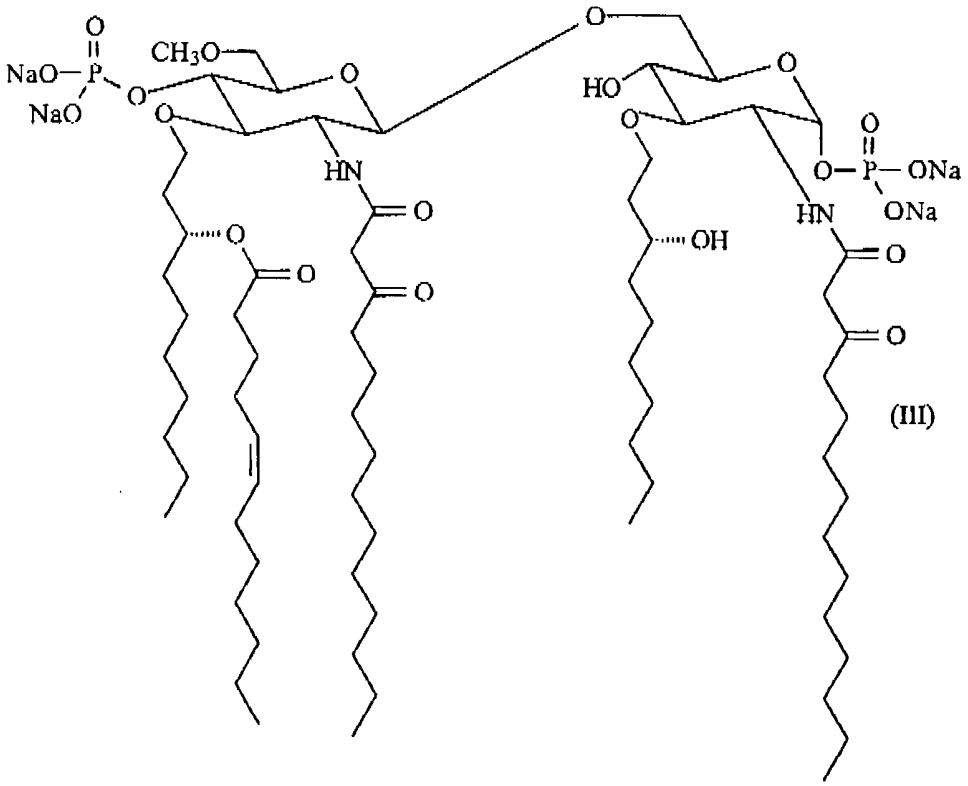
OH,  ,  ,  ,

and  ,

wherein Z is a linear or branched alkyl group of 1 to 10 carbon atoms,

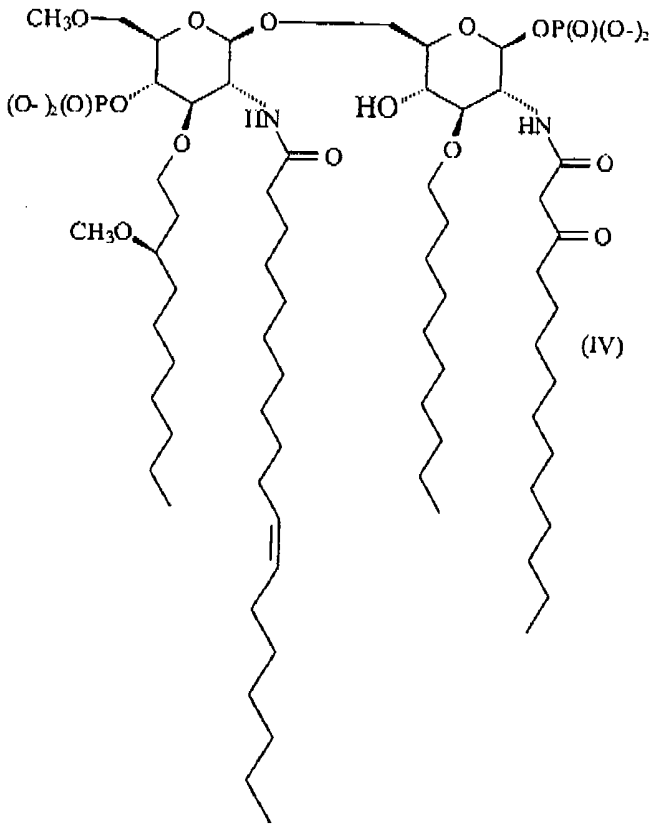
or a pharmacologically acceptable salt thereof.

9 ~~10~~. (previously presented) The method according to claim 1, wherein the lipid A analog is a compound represented by the following formula (III):



(III)

10 11. (previously presented) The method according to claim 1, wherein the lipid A analog is a compound represented by the following formula (IV):



11 ~~12.~~ (previously presented) The method according to claim 1, wherein the lipid A analog or a pharmacologically acceptable salt thereof has an aggregate structure in endoplasmic reticulum of lipid biomolecular membrane or micelle.

Please add the following new claims:

12 ~~13.~~ (new) A method of forecasting a pharmacokinetic parameter of a lipid A analog as an aggregate structure in solution or in an injection preparation, wherein said aggregate structure in solution or injection preparation contains a lipid

A analog or a pharmacologically acceptable salt thereof, said method comprising

measuring at least one of membrane fluidity and circular dichroism of the solution or the injection preparation;

preparing a plurality of lots of solutions, each solution having a unique, known value of said membrane fluidity or circular dichroism;

measuring the pharmacokinetic parameter of said plurality of lots of solutions;

preparing a graphical correlation for said plurality of lots of solutions, said correlation being between the pharmacokinetic parameter and said unique, known value of membrane fluidity or circular dichroism.

13 ~~14.~~ (new) The method according to claim 12, wherein quality evaluation is conducted in order to obtain an injection preparation exhibiting a constant pharmacokinetic parameter.

14 ~~15.~~ (new) The method according to claim 12, which is conducted during preparation of the injection preparation.

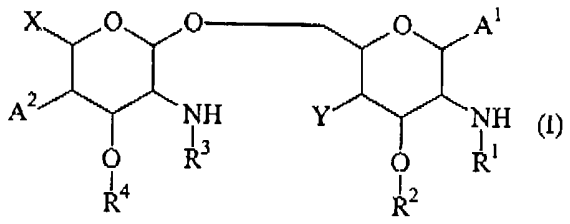
15 ~~16.~~ (new) The method according to claim 12, wherein the membrane fluidity is measured by a fluorescence probe method

which uses, as parameters, at least one of order parameter (S), fluorescence polarity (P) and fluorescence anisotropy (r).

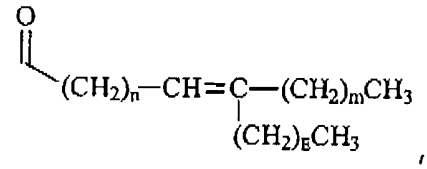
16 ~~17~~. (new) The method according to claim ~~13~~ 12, wherein the injection preparation further contains aggregates having a diameter not greater than 30 nm, and is prepared by dissolving the lipid A analog or a pharmacologically acceptable salt thereof in an alkaline aqueous solution and then adding a buffer thereto.

17 ~~18~~. (new) The method according to claim ~~13~~ 12, wherein the injection preparation is an aqueous injection or freeze-dried preparation.

18 ~~19~~. (new) The method according to claim ~~13~~ 12, wherein the lipid A analog or a pharmacologically acceptable salt thereof is a compound represented by the following formula (I):



wherein at least one of R^1, R^2, R^3 and R^4 is



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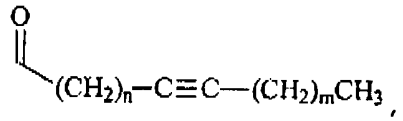

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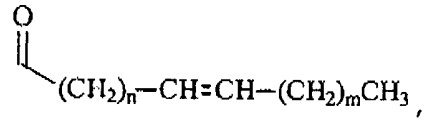

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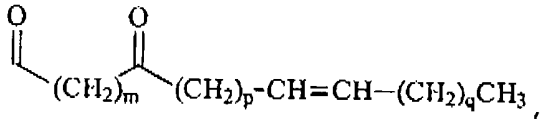

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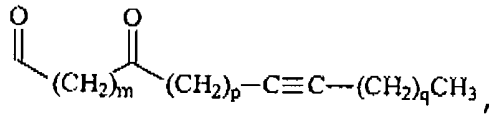

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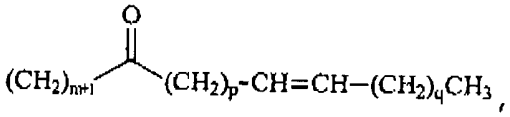

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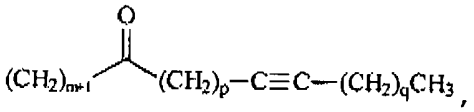

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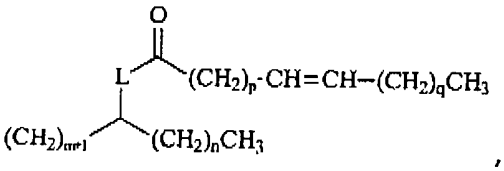

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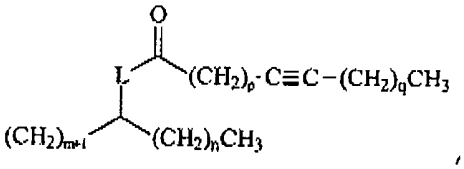

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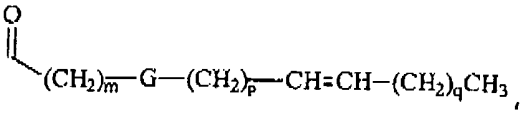

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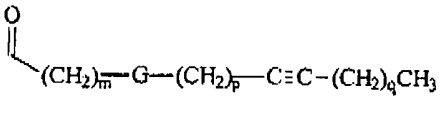

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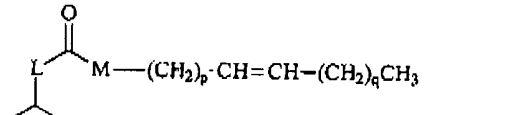

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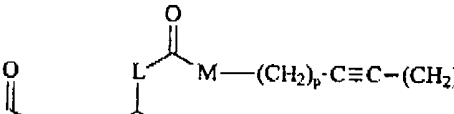

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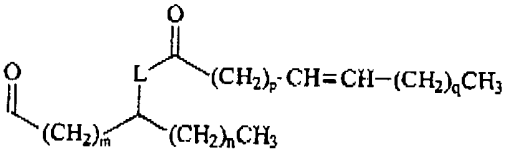

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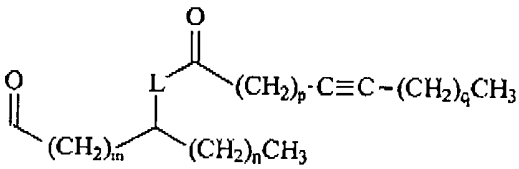

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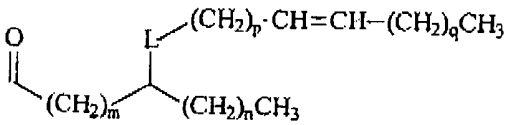
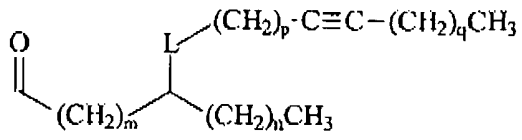
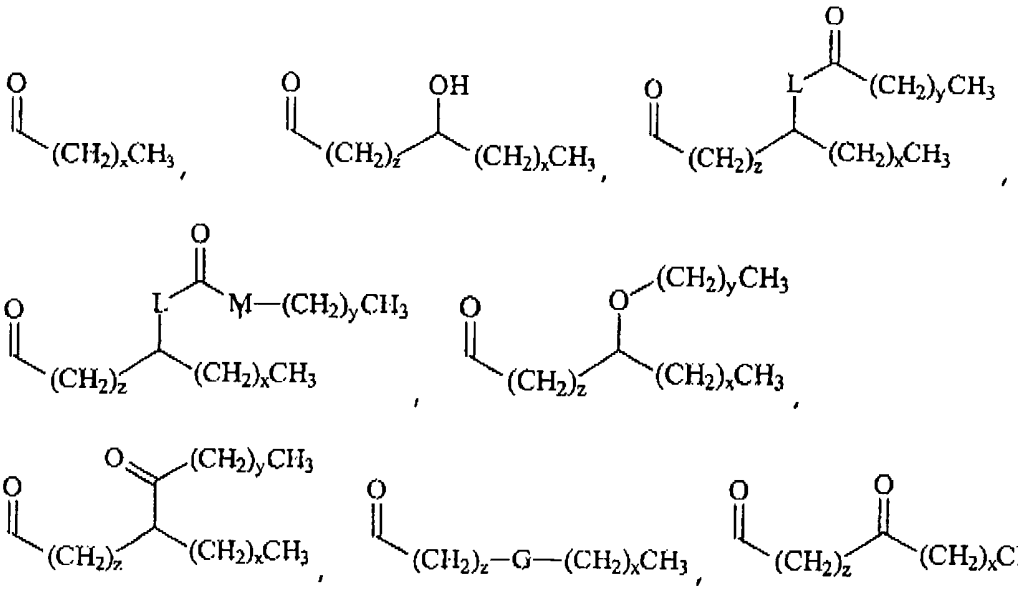
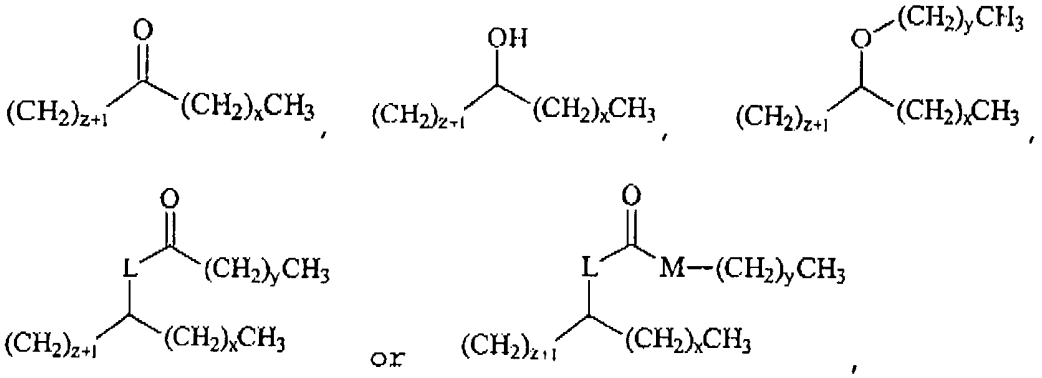


or  ,

wherein each L is O, N or C; each M is O or N; each E independently is an integer of 0 to 14; each G independently is N, O, S, SO or SO_2; each m independently is an integer of 0 to 14; each n independently is an integer of 0 to 14; each p independently is an integer of 0 to 10; each q independently is an integer of 0 to 10,

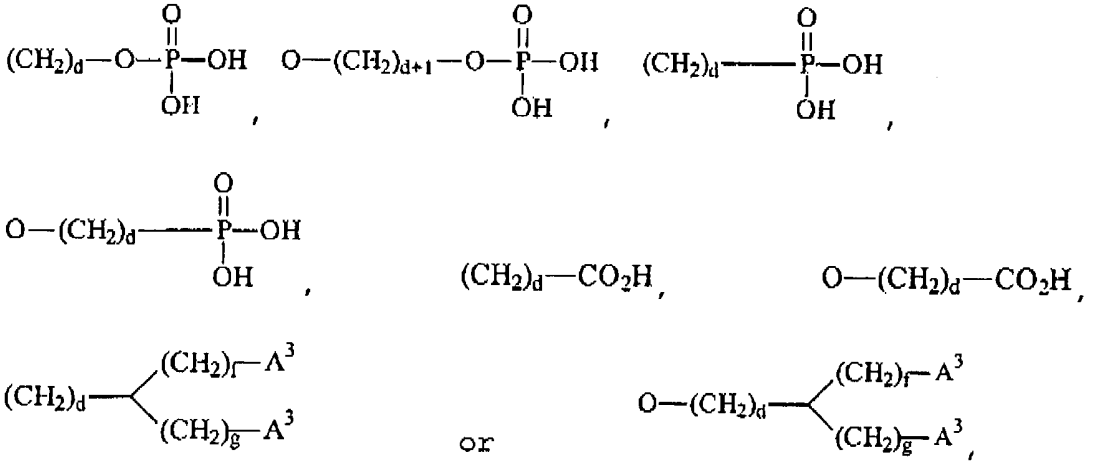
the rest of R^1, R^2, R^3 and R^4 are, independently of one another,



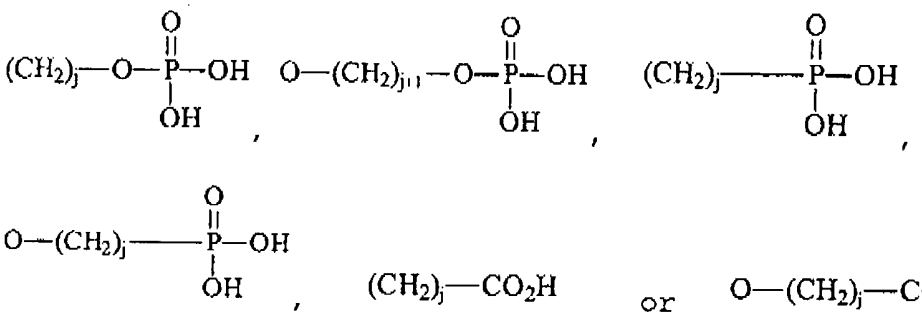


wherein each L is O, N or C; each M is O or N; each x independently is an integer of 0 to 14; each y independently is an integer of 0 to 14; each z independently is an integer of 0 to 10; each G independently is N, O, S, SO or SO_2,

A^1 and A^2 are, independently of one another, H, OH, OCH_3,

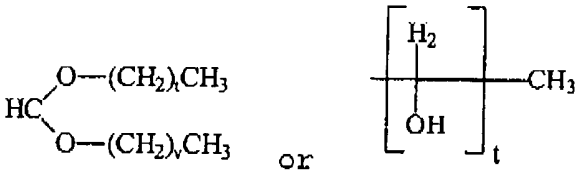


wherein each d independently is an integer of 0 to 5; each f independently is an integer of 0 to 5; each g independently is an integer of 0 to 5; each A^3 independently is



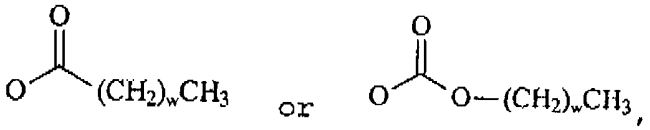
wherein each j independently is an integer of 0 to 14,

X is H, $(CH_2)_tCH_3$, $(CH_2)_tOH$, $(CH_2)_tO(CH_2)_vCH_3$, $(CH_2)_tOPO(OH)_2$, $(CH_2)_t$-CH=CH-$(CH_2)_vCH_3$, $(CH_2)_t$-O-R^5,



wherein t and v, are independently of one another, an integer of 0 to 14; R^5 is any of the above definitions of R^1 to R^4,

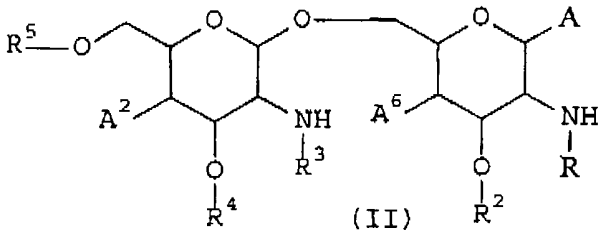
Y is H, OH, $O(CH_2)_wCH_3$, a halogen atom,



wherein w is an integer of 0 to 14,

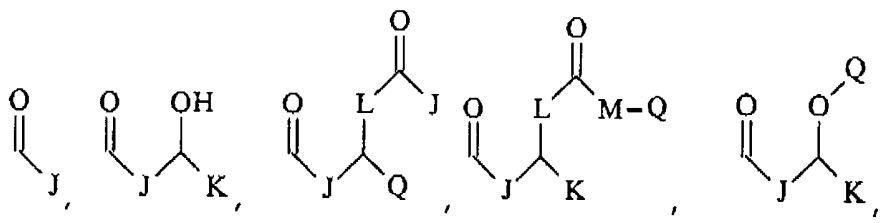
or a pharmacologically acceptable salt thereof.

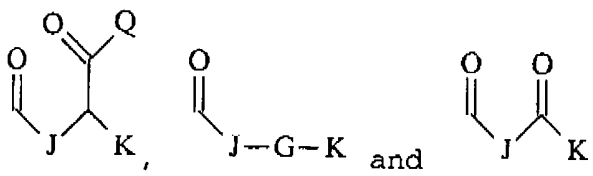
19 ~~20~~. (new) The method according to claim ~~13~~ 12, wherein the lipid A analog is a compound represented by the following formula (II):



(II)

wherein R^1 is a group selected from the groups consisting of

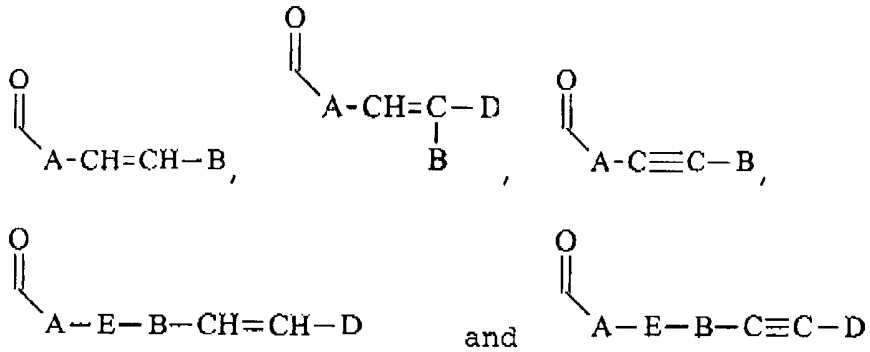




wherein J, K and Q are each a linear or branched alkyl group of 1 to 15 carbon atoms; L is O, NH_2 or CH_2; M is O or NH; G is NH, O, S, SO or SO_2,

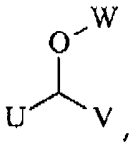
R^2 is a linear or branched alkyl group of 5 to 15 carbon atoms,

R^3 is a group selected from the groups consisting of



wherein E is N, O, S, SO or SO_2; A, B and D are each a linear or branched alkyl group of 1 to 15 carbon atoms,

R^4 is a group selected from the groups consisting of a linear or branched alkyl group of 4 to 20 carbon atoms and



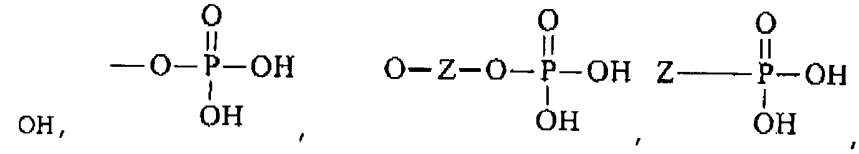
wherein U and V are each a linear or branched alkyl group of 2 to 15 carbon atoms; W is a hydrogen atom or a linear or branched alkyl group of 1 to 5 carbon atoms,

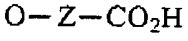
R^5 is a group selected from the groups consisting of a hydrogen atom, J', -J'-OH, -J'-O-K', -J'-O-K'-OH and -J'-O-$PO(OH)_2$, wherein J' and K' are each a linear or branched alkyl group of 1 to 5 carbon atoms,

R^6 is a group selected from the groups consisting of a hydroxyl group, a halogen atom, an alkoxy group of 1 to 5 carbon atoms, and an acyloxy group of 1 to 5 carbon atoms,

A^1 and A^2 independently are each a group selected from the groups

consisting of

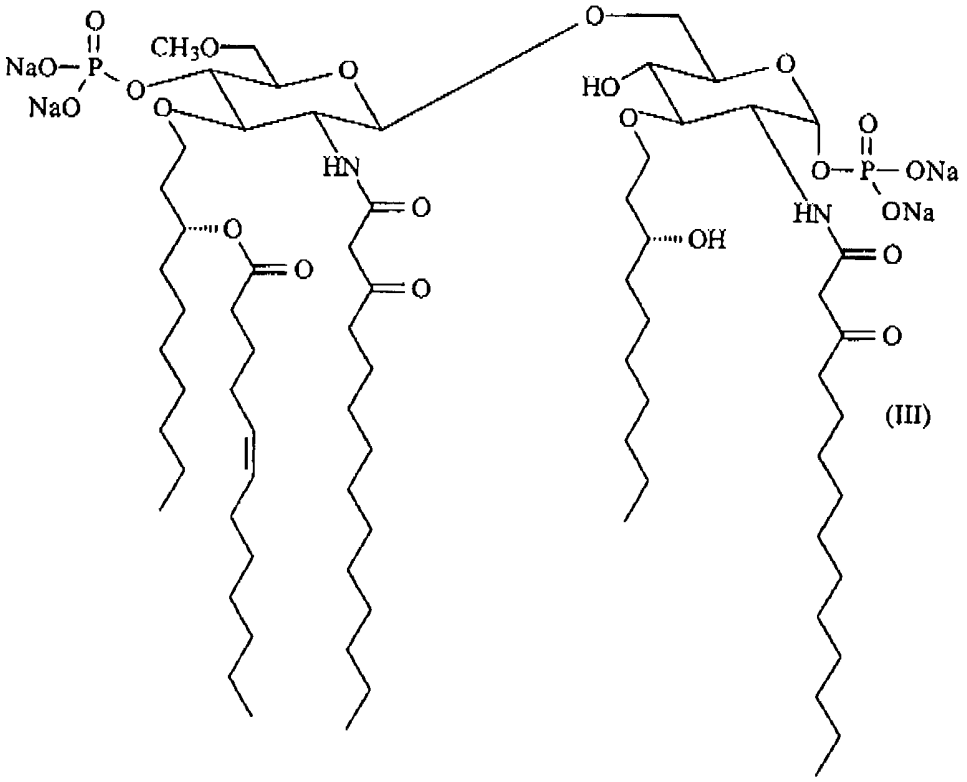


OH, , and  ,

wherein Z is a linear or branched alkyl group of 1 to 10 carbon atoms,

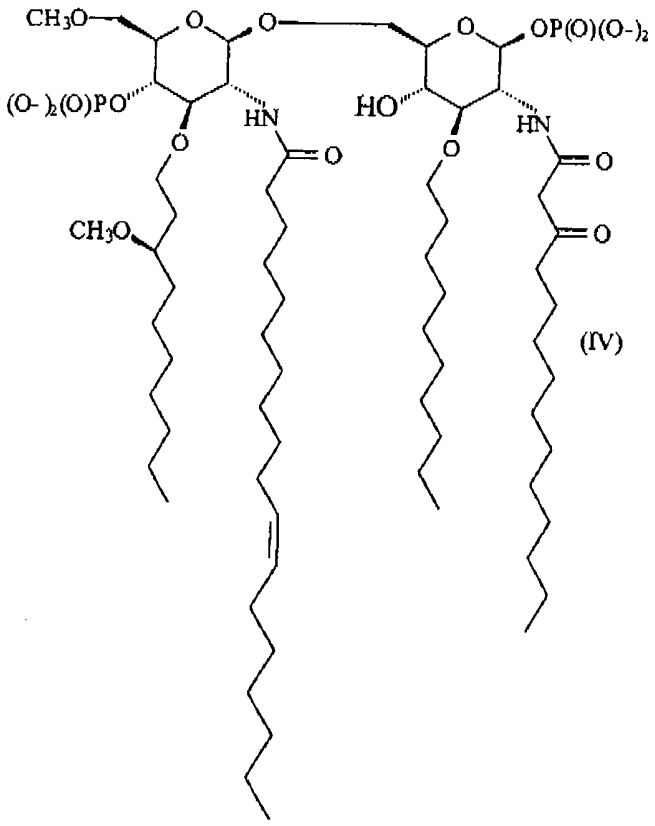
or a pharmacologically acceptable salt thereof.

20 ~~21~~. (new) The method according to claim ~~13~~ 12, wherein the lipid A analog is a compound represented by the following formula (III):



(III)

21 ~~22~~. (new) The method according to claim 12 ~~13~~, wherein the lipid A analog is a compound represented by the following formula (IV):



(IV)

22 ~~23~~. (new) The method according to claim 12 ~~13~~, wherein the lipid A analog or a pharmacologically acceptable salt thereof has an aggregate structure in endoplasmic reticulum of lipid biomolecular membrane or micelle.